

**Delaware Department of Transportation
Division of Transportation Solutions
Design Guidance Memorandum**

Memorandum Number 2-7

1. Road Design Manual 2. Bridge Design Manual 3. Utilities Design Manual
4. Real Estate Manual 5. Standard Specifications 6. Standard Construction Details

Title: Protection for Median Gap of Parallel Structures Effective date: January 1, 2014

Sections to Implement:

<input type="checkbox"/> Project Development	<input type="checkbox"/> Planning	<input type="checkbox"/> DTC
<input checked="" type="checkbox"/> Bridge	<input type="checkbox"/> Quality	<input type="checkbox"/> Traffic
<input type="checkbox"/> Team Support	<input type="checkbox"/> Maintenance & Operations	<input type="checkbox"/> Other
<input type="checkbox"/> Utilities		

I. Purpose:

To provide guidance for the design of protective measures for the median gap of new and rehabilitated parallel structures.

II. Design Guidance:

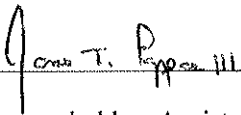
1. This DGM is intended to establish a procedure for identifying the need and developing a mitigation strategy to inhibit attempts to move between separated bridge structures where fall hazards from open gaps between structures could be misjudged by emergency responders, stranded motorists, maintenance personnel or persons walking on median shoulders and lanes. Some of the site specific factors that should be considered when determining the need for additional protection are the width between the structures, the lighting above and below the bridge, whether or not the barrier continues well beyond the bridge making it difficult to know where the bridge is located, and the potential for severe injury from a fall. This guidance, in conjunction with site specific factors, will be implemented in the design of New Construction and Reconstruction Projects and Intermediate Projects as defined by the Road Design Manual – Section 3.1.3.
2. Where the distance between median fascia barriers of parallel structures is between 6-inches and 15-ft and the bridge deck is greater than 6-ft above the ground or the resulting fall could result in serious bodily injury or death, the minimum barrier height for the median-side barrier will be 48-inches.
3. Where required by this DGM, the minimum median side barrier height can be provided by a single full height barrier, full height railing or the combination of a barrier equipped with a crash tested traffic railing meeting the height requirements listed below.
4. When implementing this standard, the design should adhere to the typical design criteria as applicable for the site specific conditions such as horizontal sight distance which may be impaired by the 48-inch median-side barrier. If the design criteria cannot be met, it must be documented and approved by the Bridge Design Engineer.
5. The height of the fascia barrier for each bound of the parallel structures is not affected by implementation of this design guidance.

III. Justification:

Need to provide measures to inhibit misjudgment of deck conditions and structure proximity, to deter dangerous movements by pedestrians between roadways, and to provide added protection from potential falls from open median gaps on parallel structures.

Prepared by: Quality Section

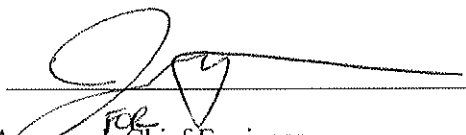
Date: January 1, 2014



Recommended by: Assistant Director – Quality

12.23.13

Date



Approved: Chief Engineer

12/23/13

Date

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